

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: January 28, 1997  
Date Received: January 23, 1997  
Project: Metro Self Monitor, PO #M55933  
Date Samples Extracted: January 27, 1997  
Date Extracts Analyzed: January 27, 1997

**RESULTS FROM THE ANALYSIS OF THE WATER SAMPLE  
FOR CHROMIUM, COPPER, NICKEL, AND ZINC  
USING METHOD 6010**

**Samples Processed Using Method 3005A  
Results Reported as mg/L (ppm)**

<u>Sample ID</u>	<u>Chromium</u>	<u>Copper</u>	<u>Nickel</u>	<u>Zinc</u>
M55933	0.69	0.71	0.70	0.06
Method Blank	<0.05	<0.05	<0.05	<0.05

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**QUALITY ASSURANCE RESULTS  
FOR TOTAL METALS BY  
INDUCTIVELY COUPLED PLASMA (ICP)  
(METHOD 6010)**

Laboratory Code: 75184 (Duplicate)

<u>Analyte:</u>	<u>Reporting Units</u>	<u>Sample Result</u>	<u>Duplicate Result</u>	<u>Relative Percent Difference</u>	<u>Acceptance Criteria</u>
Chromium	mg/L (ppm)	0.69	0.67	3	0-20
Copper	mg/L (ppm)	0.71	0.67	6	0-20
Nickel	mg/L (ppm)	0.70	0.67	4	0-20
Zinc	mg/L (ppm)	0.06	0.05	18a	0-20

Laboratory Code: 75184 (Matrix Spike)

<u>Analyte:</u>	<u>Reporting Units</u>	<u>Spike Level</u>	<u>Sample Result</u>	<u>% Recovery</u>		<u>Acceptance Criteria</u>	<u>Relative Percent Difference</u>
				<u>MS</u>	<u>MSD</u>		
Chromium	mg/L (ppm)	5	0.69	91	95	80-120	4
Copper	mg/L (ppm)	5	0.71	92	96	80-120	4
Nickel	mg/L (ppm)	10	0.70	91	94	80-120	3
Zinc	mg/L (ppm)	5	0.06	92	97	80-120	5

Laboratory Code: Spike Blank

<u>Analyte:</u>	<u>Reporting Units</u>	<u>Spike Level</u>	<u>% Recovery</u>		<u>Acceptance Criteria</u>	<u>Relative Percent Difference</u>
			<u>MS</u>	<u>MSD</u>		
Chromium	mg/L (ppm)	5	97	98	80-120	1
Copper	mg/L (ppm)	5	99	101	80-120	2
Nickel	mg/L (ppm)	10	96	98	80-120	2
Zinc	mg/L (ppm)	5	97	99	80-120	2

a - The analyte was detected at a level less than five times the detection limit. The RPD results may not provide reliable information on the variability of the analysis.



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Beth M. Albertson, M.S.  
Bradley T. Benson  
Kelley D. Wilt

3012 16th Avenue West  
Seattle, WA 98119-2029  
TEL: (206) 285-8282  
FAX: (206) 283-5044

January 28, 1997

**INVOICE # 97ACU0128-1  
DUPLICATE COPY**

Accounts Payable  
Alaskan Copper Works  
628 South Hanford  
Seattle, WA 98134

RE: Project Metro Self Monitor, PO #M55933: Results of testing requested by  
Gerry Thompson, Project Manager for material submitted on January 23,  
1997.

1 water sample analyzed for  
Chromium, Copper, Nickel, and Zinc  
using Method 6010 @ \$65 per sample

\$ 65.00

Amount Due .....

\$ 65.00

FEDERAL TAX ID # (b) (6)



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**ENVIRONMENTAL CHEMISTS**

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January 28, 1997

Gerry Thompson, Project Manager  
Alaskan Copper Works  
628 South Hanford  
Seattle, WA 98134

Dear Mr. Thompson:

Included are the results from the testing of material submitted on January 23, 1997 from your Metro Self Monitor, PO #M55933 project.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Kurt Johnson  
Chemist

keh  
Enclosures  
ACU0128R.DOC